

APPENDIX OF CLAIMS AFTER LATEST AMENDMENT

C1 Sub E1

1. A technique for bilevel printing of an image or figure comprising:
providing an inkjet printhead having a nozzle pitch of a first resolution;
creating a higher resolution bitmap which resolution is greater than the first resolution;
eliminating certain selected alternate pixel rows entirely from the higher resolution
bitmap by converting the higher resolution bitmap into a downscaled lower resolution bitmap
having a reduced number of rows available for printing; and
printing the downscaled lower resolution bitmap onto an asymmetrical pixel grid having
the first resolution in one axis and the higher resolution in a second axis.

2. The technique of claim 1 wherein said converting includes applying a narrowing
process only in the axis of higher resolution while preserving any vertical edge pixels of the
figure.

3. The technique of claim 1 wherein said converting includes applying a logical
operation on certain rows of the higher resolution bitmap to determine whether or not to preserve
any "on" pixels which are in the eliminated alternate pixel rows as a result of printing onto the
asymmetrical pixel grid.

4. The technique of claim 3 wherein said applying includes applying a logical operation
on one of the eliminated alternate pixel rows and its two adjacent rows of the higher resolution
bitmap.

5. The technique of claim 1 wherein said first resolution is approximately 600 dpi.

6. The technique of claim 5 wherein said asymmetrical pixel grid is approximately 600 dpi in the media advance axis and approximately 1200 dpi in the carriage scan axis.

7. The technique of claim 1 wherein said first resolution in the one axis is approximately one half of said higher resolution in the second axis.

8. The technique of claim 7 wherein the second axis of said higher resolution extends in a scanning axis direction of the inkjet printhead..

9. The technique of claim 1 wherein said higher resolution bitmap is a symmetrical resolution bitmap.

10. The technique of claim 1 wherein said higher resolution bitmap has a resolution which is a multiple of said first resolution.

11. The technique of claim 1 wherein said higher resolution bitmap is a monochrome bitmap.

12. The technique of claim 4 wherein the logical operation is applied to preserve and transfer an "on" pixel from an eliminated row to an adjacent non-eliminated row in the event there is a predetermined number of "off" pixels on the two adjacent rows of said eliminated row.

13. The technique of claim 12 wherein the logical operation is applied to an individual pixel on an eliminated row and to individual pixels on two vertically adjacent rows.

14. The technique of claim 12 wherein the logical operation is applied to an individual pixel on an eliminated row and to vertically adjacent individual pixels on both an upper and lower vertically adjacent row, respectively.

15. A method of achieving high quality printing from one or more printheads having a given nozzle pitch resolution, comprising:

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creating a first symmetrical bitmap having a resolution which is a multiple of the given nozzle pitch resolution;

transforming the first bitmap by eliminating certain entire pixel rows in order to create a downscaled asymmetrical bitmap having a reduced number of rows available for printing on an asymmetrical pixel grid having a higher resolution in a carriage scan axis and a lower resolution in a media advance axis; and

performing a logical operation on an eliminated pixel row and two of its adjacent pixel rows in order to preserve an "on" pixel from the eliminated pixel row and transfer it to an "off" pixel in one of said two adjacent pixel rows.

16. The technique of claim 1 wherein said converting includes applying an interior depletion pattern in the axis of higher resolution and a different edge depletion pattern prior to printing..

17. The method of claim 15 wherein said transforming includes applying an interior depletion pattern in the axis of higher resolution and a different edge depletion pattern prior to printing..

18. The method of claim 15 wherein said transforming includes applying a narrowing process only in the axis of higher resolution.

19. A printing system comprising:

one or more print cartridges having a given print resolution;

a carriage for mounting the one or more print cartridges;

motor means for scanning the carriage across a print medium; and

a writing system for downscaling raster data from a high resolution A = B bitmap to a

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lower resolution asymmetrical bitmap where A is not equal to B by completely eliminating certain linear sequences of pixels such as selected non-adjacent pixel rows resulting in a modified bitmap with a reduced number of remaining pixel rows, wherein said writing system performs a logical operation comparing "on" pixels in the eliminated rows with "off" pixels in selected adjacent remaining rows in order to preserve and transfer "on" pixels from an eliminated row to a remaining row for printing by the cartridges on the print medium.

20. The printing system of claim 19 wherein the given print resolution of the print cartridges is less than the high resolution of the A = B bitmap.
